REMARKS

Claims 1-7, 9, 10, and 37-40 are pending in the present application. Claims 1-7, 9, 10, and 37-39 have been amended. Claim 8 has been canceled. Claim 40 has been added.

Claim Objections

Claim 1 stands objected to for various informalities. Specifically, the claim 1 is objected to because the "elongated intervention device" is not positively recited. Applicant has amended claim 1 to positively recite "an elongate intervention device." Further, Applicant has amended claim 1 to replace "arranged" with "configured" as suggested by the Examiner. Also, claims 2-7, 9, 10, 37-39 have been amended to replace "according to" with "of," as suggested by the Examiner. In view of the above, Applicant requests that the objections be withdrawn.

Claim Rejections - 35 U.S.C. §112

Claims 1-10 and 37-39 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In response, applicant has amended claim 1 to clarify that the controller is "connected to the at least one force sensor and configured to calculate the applied force based on the remote force." Thus, Applicant requests that the rejection be withdrawn.

Claim Rejections - 35 U.S.C. §102

Claims 1-7, 10, 37 and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by US 6,096,004 to Meglan et. al. ("Meglan").

First point of novelty

In the Office Action, the Examiner asserts that the parts referred to as 10', 12', 14', 50, 56, 10", 12" and 14" in Meglan are analogous to "an elongate intervention device" of claim 1. These reference numbers identify catheter-like cylinder controls 10', 12' and 14' that are part of a

master actuator 50 (column 4 lines 32-33), and a catheter 14", a catheter 12" and a wire 10" (column 4 lines 34-35) controlled by a slave actuator 52. Reference 56 refers to electrical interface circuitry 56 which is electrically coupled to the master actuator 50 and slave actuator 52.

The Examiner asserts that the "intervention device" of Meglan also carries at least one force sensor in the form of at least one of 114, 116 of 50. The Examiner asserts that a broad definition of "carry" is to "wear, hold or have around one". At page 8 of the Office Action, the Examiner further explains that "Fig. 3 clearly shows that the sensors are around portions 10', 12', 14' of the intervention device", and that "additionally, as noted in the statement of rejection 50 is interpreted as part of the claimed "intervention device" and Fig. 3 clearly shows that case 72 of 50 "carries" units 70, which include the sensors.

Applicant does not necessarily agree with the Examiner's interpretation of the word "carry," but to expedite examination, Applicant has amended the claims to clarify the invention.

Based on the Examiner's interpretation that the master actuator 50, electrical interface 56, catheter-like cylinder controls 10',12',14', catheters 12",14" and the wire 10" are considered to be part of the "intervention device", the Examiner will appreciate that the master actuator 50, electrical interface 56 and the catheter-like cylinder controls 10',12',14' are not operable to be inserted into a human or animal subject (or a simulated human or animal model).

In contrast, unlike the disclosure of Meglan, claim 1 of the present application includes the limitation that the intervention device is operable to be inserted into a human or animal subject. Thus, Applicant submits that this represents a first point of novelty over Meglan.

Second point of novelty

The Examiner asserts that the assemblies 114,116 of Meglan are analogous to the "at least one force sensor" of claim 1, and the Examiner will appreciate that the assemblies 114, 116 are located in the actuators 70 (see Figure 5). However, the assemblies 114,116 (or the sensors in the

assemblies 114,116 – see column 6 lines 48-60) are not configured to be inserted into a human or animal subject (just like the master actuators 50, the interface 56 etc).

In contrast, unlike the disclosure of Meglan, claim 1 includes the limitation that the intervention device is operable to be inserted into a human or animal subject together with the at least on force sensor. Thus, Applicant submits that this represents a second point of novelty over Meglan.

Third point of novelty

As a recap, the Examiner asserts that the assemblies 114,116 of Meglan are analogous to the "at least one force sensor" of claim 1. It should be noted that 114 and 116 refer to motor/sensor assemblies (column 6, lines 48-49 of Meglan) which are mechanically coupled to the drive shafts 106,108 respectively. Column 6, lines 49-58 further explains that the motors within the assemblies 114 and 116 apply torque to the corresponding drive shaft 106,108 in response to the drive signals. The sensor within each assembly 114 and 116 senses the rotational position of the corresponding co-located motor. The passage further explains that the sensors generate sense signals 60 indicating the senses positions of the respective wheel 102 or 104. Figures 5-9 show details of an actuator 70 of Figure 3 which is an actuator assembly 50-1 which can be used as either the master actuator 50 or the slave actuator 52. In other words, the sensors within the assemblies 114,116 sense the rotational position of the corresponding co-located motor.

In contrast, claim 1 includes the limitation that the at least one force sensor is arranged to sense a remote force in the human or animal subject acting on the intervention device. Thus, Applicant submits that this represents a third point of novelty over Meglan.

Furthermore, the Examiner alleges with regard to the subject matter of canceled claim 8 (now incorporated into claim 1) that it would be obvious to have made the master unit 50 portable and of a size which would fit within a human subject as this would allow the unit to be easily transportable from operating room to operating room.

Applicant respectfully submits that the Examiner's assertion that it is obvious to make the master unit 50 portable and of a size which would fit within a human is unreasonable and without merit. As explained in column 2 lines 30 to 37, the master/slave control system of Meglan is for designed for manipulating a generally cylindrical medical tool within a patient and the system can be used for procedures such as peripheral vascular catheterization or cardiac catheterization. Clearly, the system in Meglan is used for medical procedures in which the patient's health and life is at stake. The Examiner's assertion that it would be obvious to make the master unit 50 (which comprises actuators 70 and the assembles 114, 116 etc) portable and of a size which would fit within a human subject merely for ease of transportability seems totally illogical since this would mean placing devices into a patient's body for the sake of transporting the devices, which would endanger the life of the patient. Applicant submits that no skilled person would consider doing such a thing.

Additionally, Applicant notes that the above remarks are based on the Examiner's interpretation that the master unit 50 is part of the "intervention device." In the event that the Examiner were to change his position and assert that the master unit 50 is not part of the "intervention device", then the Examiner's assertion that the base 72 of master actuator 50 "carries" units 70, which include the sensors, must also fail. Consequently, Applicant submits that Meglan also does not disclose an intervention device "carrying" at least one force sensor.

In view of the above, Applicant submits that Meglan does not recite each and every element of claim 1 and thus claim 1 is allowable over Meglan. New claim 40 includes similar limitations as claim 1 and as a result, applicant submits that claim 40 is also patentable for the same reasons as claim 1. Claims 2-7, 10, 37 and 39 depend from claim 1 and are patentable for at least the same reasons as claim 1.

Claims 8 and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Meglan. The rejection is respectfully traversed. Claim 8 has been canceled. Claim 9 depends from claim 1 and is patentable over Meglan for at least the reasons mentioned above. Accordingly, Applicant respectfully requests that the rejection be withdrawn and that claim 9 be allowed.

Claim 38 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Meglan view of U.S. Patent No. 5,957,833 to Shan et al. ("Shan"). The rejection is respectfully traversed. Claim 38 depends from claim 1 and is patentable over Meglan for at least the reasons mentioned above. Shan, used in the Office Action to teach that an endoscope with a plurality of strain gauges, fails to remedy the inadequacies of Meglan. Therefore, neither Meglan nor Shan, individually or combined, teach every limitation of claim 38. Claim 38 is thus patentable over the cited combination. Accordingly, Applicant respectfully requests that the rejection be withdrawn and that the claim be allowed.

SUMMARY AND CONCLUSION

Applicant has made a sincere effort to place the present application in condition for allowance. Applicant has pointed out significant and substantial shortcomings of the document relied upon by the Examiner with respect to the pending claims. Applicant has further discussed the explicitly recited features of Applicant's claims and have noted the shortcomings of the relied upon document with respect thereto. Accordingly, Applicant has provided a clear evidentiary basis supporting the patentability of all the claims in the present application and respectfully requests a prompt allowance. Should the Examiner have any questions or comments regarding this Response, or the present application, the Examiner is invited to contact the Applicant's undersigned attorney at the telephone number set out below.

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Respectfully submitted,

By _____

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